DOCUMENT RESUME

ED 244 817 SE 044 542

TITLE	Connect, UNESCO-UNEP Environmental Education Newsletter, Vol. IX, No. 1. March 1984. Publications of the International Environmental Education Programme.
INSTITUTION	United Nations Educational, Scientific, and Cultural Organization, Paris (France).; United Nations Environment Programme, Nairobi (Kenya).
PUB DATE	Mar 84
NOTE	9p.; For related documents, see ED 179 406-409 and ED 241 288.
AVAILABLE FROM	UNESCO, 7, place de Fontenoy, 75700 Paris, France.
PUB TYPE	Reports - Descriptive (141) -- Collected Works - Serials (022)
JOURNAL CIT	Connect; v9 n1 Mar 1984
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Educational Trends; Elementary Secondary Education; *Environmental Education; Foreign Countries; Higher Education; Instructional Materials; *Learning Modules; *Program Descriptions; Publications; *Teacher Education; *Workshops
IDENTIFIERS	*Caribbean

ABSTRACT

This newsletter describes eight International Environmental Education Program publications and lists titles of five others to be published. The goal of these publications (including sourcebooks and learning modules) is to provide individuals and institutions with the educational content and pedagogical guidelines permitting effective promotion and development of environmental education (EE). Also described is the Sub-regional Workshop on Teacher Training in Environmental Education for the Caribbean, with individual reports from the Bahamas, Barbados, Belize, Dominica, Grenada, Jamaica, St. Lucia, St. Vincent and the Grenadines, and from Trinidad and Tobago. Workshop goals included exchanging information and experience on the development of EE in the Caribbean, examining five teacher training modules, and exploring efficient ways for local adoption and use of the modules. Reports on EE in Malaysia, a southeast Asia seminar on EE for planners and decision-makers, EE training workshops in Tunisia and Ethiopia, and a meeting on EE and health-related environmental problems are included. The newsletter concludes with several news items and descriptions of recent publications. (JN)

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UNESCO-UNEP ENVIRONMENTAL EDUCATION NEWSLETTER

Vol. IX, No. 1, March 1984

Publications of the International Environmental Education Programme

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY
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The Declaration and recommendations of the Intergovernmental Conference on Environmental Education (Tbilisi, USSR, 1977) provided a framework and guiding principles for the development of environmental education (EE) at the national and international levels. Clarification of the varied aspects of EE content and methodology was consequently considered indispensable for the effective implementation of EE at all levels, inside and outside the formal school system.

In the light of these considerations, the Unesco-UNEP International EE Programme (whose first phase culminated in the 1977 Tbilisi Conference) has undertaken the preparation of a series of educational publications dealing with fundamental questions of the contemporary environment, its problems and challenges. These publications incorporate an interdisciplinary approach and aim at meeting the appropriate methodological needs of EE at all levels of the formal and nonformal educational process, including the pre-service and in-service training of teachers and instructors generally.

The goal of the International EE Programme's publications is to provide individuals and institutions involved, with the educational content and pedagogical guidelines permitting effective promotion and development of environmental education. In view of the wide diversity of ecological, cultural and socio-economic situations, the publications do not attempt to attain "universal scope". Rather, their contents and methods are devised for critical usage, the ideal being to adapt the publications to local conditions and systematically evaluate them for locally effective teaching needs.

The basic educational materials prepared by the International EE Programme include methodological guidebooks and manuals treating specific or various aspects of environmental education. Among the first of these is an EE sourcebook which is on the press, aimed largely at teachers in the formal school system. A second EE sourcebook, which is under preparation, is destined primarily for those responsible in one way or another for educational activities outside the school system which deal with the environment, health and rural development. A series of practical educational modules has also been prepared which deals with specific environmental problems and concerns — the conservation and management of natural resources, desertification, nutrition and health, energy and the environment, large-city environmental problems — as well as a series of six pre-service and in-service modules for the training of teachers and inspectors in the natural and the social sciences at primary and secondary school levels.

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Supplementary to these basic materials, a manual dealing with EE teaching/learning principles has been prepared as well a series of guidebooks devoted to methodological approaches particularly adaptable to environmental education — approaches emphasizing problem solving, the use of simulation and gaming, strategies for interdisciplinary education, the use of the modular approach, EE evaluation, etc.

Lastly, a multilingual glossary, which contains commonly used EE terms, has been elaborated as a contribution to standardization of the vocabulary currently used in this field; and a publication has been prepared describing progress and trends in EE at the international level since the Tbilisi Conference as well as current needs and future priorities in this important field.

Publications of the current and continuing series titled, *Environmental Education Series*, are listed and reviewed below together with their appropriate number. (For information about their procurement at no cost, institutions should write to *Connect*, address on the last page. For a complete list of the publications and reports of the International EE Programme, see *Connect*, September 1983.)

1. **Trends in Environmental Education Since the Tbilisi Conference.** Seven years after its foundation in 1975, the Unesco-UNEP International EE Programme conducted a worldwide survey (the second since its beginning) in order to determine present EE needs and priorities of Member States and the main trends in its development, particularly since the Intergovernmental EE Conference, held in Tbilisi, USSR, October 1977. This published overview is based on a preliminary analysis of information collected through publications, documents and other EE materials, especially a questionnaire sent to Member States of Unesco in 1981/82, to which 81 — representing a broad spectrum of the regions of the world — responded. Part One is devoted to EE trends, needs and priorities at the world level. Part Two focuses on regional particularities. (English and French. For more information on the survey and its results, see *Connect*, September 1982.)

2. **Guide on Simulation and Gaming for Environmental Education.** Among strategies for integrating an environmental dimension into educational processes, environmental gaming and simulation seem particularly suitable, reproducing in a simplified and dramatic manner the complex nature of concrete environmental problems. The game situations in this publication take into account various factors — natural, social, cultural, etc. — as well as the values, interests and behavioural patterns of different social actors — economic agents, scientists, government officials, the general public, etc. — which are likely to contribute to the generation and solution of environmental problems. Games and simulation provide the student-player with a framework helping him to appraise environmental situations in a multidisciplinary, multifaceted perspective and preparing him for effective decision making. Part One of the guide develops fundamentals of gaming and simulation design. Part Two provides examples of games, including a specific game devised for generating other games. (English only at present.)

3. **Module éducatif sur la conservation et la gestion des ressources naturelles.** This educational module on the conservation and management of natural resources aims at providing teachers of primary and secondary schools with fundamental concepts in the field of environmental conservation and management and with a group of educational activities for their pupils, designed with an interdisciplinary approach. Part One considers the fundamentals of environmental education as well as those of environmental conservation and management. Part Two deals with a series of subjects of primary importance in the latter domain, such as the provenance of our natural resources, the earth and its products, water and waterbeds, energy, metals and minerals, etc. (French only at present. The module is currently being adapted for the humid tropical zones of Africa, Asia, Latin America and the Caribbean and for the arid and semi-arid zones of the Sahel area.)

4. **Educational Module on Environmental Problems in Cities.** The survey conducted by the International EE Programme (see No. 1, above) revealed that improvement of the quality of the environment — of cities in particular — was a basic priority for future action for a majority of Member States of the Europe-North America region, for which this experimental teaching module was prepared. Intended principally for secondary-school teachers and pupils, the module seeks to clarify some essential concepts and treat such major environmental problems as urban growth and land use, city transportation, air and water quality, noise and energy. It proposes a series of practical activities and evaluation exercises. Part One contains guidelines for teachers, Part Two the module as such. (English only at present. This module is one of several regional adaptations planned by the IEE Programme on the theme of urban problems. The module is currently being adapted to the cities of Southeast Asia and will also be adapted to the Latin American situation.)

5. **Environmental Education Module for Pre-Service Training of Teachers and Supervisors for Primary Schools.** The Table of Contents for this EE module indicates its scope: Section One deals with EE content, Section Two with EE methodology. Under Section One one finds: the environment (biophysical components, interactions between the biophysical and the socio-cultural); problems arising from interactions in the environment (naturally occurring problems, man-induced problems); and dealing with these problems. Under Section Two: strategies for including EE in the curriculum; pedagogical approaches to EE; evaluation in EE; and management of EE in the primary classroom. Environmental education is thus treated here as a self-contained course. (English only at present.)

6. **Environmental Education Module for In-Service Training of Teachers and Supervisors for Primary Schools.** This module is to be published in English and reviewed in *Connect* before the end of the year.

7. **Environmental Education Module for Pre-Service Training of Science Teachers and Supervisors for Secondary Schools.** Contents of this module include chapters on the following (with units for classroom use): a. the environmental problematique and educa-

tion's response; b. science education — an essential contribution to EE; c. curriculum tasks in EE for science teachers; d. teaching strategies for use in environmental science education; e. evaluation of EE; and f. implementation of EE at the school system level. There is also a sizable, five-part appendix on science concepts of particular importance in EE; definitions and aims of EE; the Unesco-UNEP International EE Programme, etc. (English only at present.)

8. **Environmental Education Module for In-Service Training of Science Teachers and Supervisors for Secondary Schools.** This module is primarily addressed to secondary-school science teachers and supervisors who have had little or no training in environmental education. Consequently its contents cover the many EE aspects essential for secondary level instruction. The topics included are the history and development of EE; its philosophy and guiding principles; basic information about the environment and its problems; appropriate instructional strategies; model experiments and activities; evaluation of teaching and learning; and implementation strategies for in-service programmes. (English only at present. Local adaptations are being prepared in India and Bahrain.)

9. **Environmental Education Module for Pre-Service Training of Social Science Teachers and Supervisors for Secondary Schools.** To be published in English and reviewed in *Connect* before the end of the year.

10. **Environmental Education Module for In-Service Training of Social Science Teachers and Supervisors for Secondary Schools.** To be published in English and reviewed in *Connect* before the end of the year.

11. **Les approches pédagogiques axées sur la solution de problèmes en éducation relative à l'environnement.** To be published in French and reviewed in *Connect* before the end of the year.

12. **L'approche interdisciplinaire en éducation relative à l'environnement.** To be published in French and reviewed in *Connect* before the end of the year.

13. **Analysis of Results of Environmental Education Pilot Projects.** To be published in English and French and reviewed in *Connect* before the end of the year.

Sub-Regional Workshop on Teacher Training in Environmental Education for the Caribbean

From 18 to 29 July 1983, a Sub-Regional Workshop on Teacher Training in Environmental Education for the Caribbean was held in Mona, Jamaica. It was organized by the School of Education of Jamaica's University of the West Indies in cooperation with — and as an activity of — the Unesco-UNEP International Environmental Education Programme.

Nine teacher educators participated in the Caribbean workshop. They came from the Bahamas, Barbados, Belize, Dominica, Grenada, Jamaica, St. Lucia, St. Vincent and Trinidad-and-Tobago. There were seven observers present as well. Substantive items of the agenda were based on the workshop's principal goals, namely, (1) exchanging information and experience on the development of EE in the Caribbean (see country reports below); (2) familiarizing participating teacher educators with the contents of the series of five teacher training modules in EE prepared by Unesco in the framework of the International EE Programme, and (3) exploring efficient ways — and identification of institutions for — local adaptation and use of the modules in the Caribbean.

Particular as well as common environmental problems emerged from the country reports: destruction of marine resources, pollution of water, negative effects of tourism, soil erosion, population pressures and solid-waste-disposal difficulties. Measures for their solution involved appropriate legislation and controls, public information campaigns and general environmental education. Participants indicated in their reports that many of the teachers' colleges represented at the workshop were infusing EE into their science and social studies programmes, and that other agencies, such as forestry departments, were conducting nonformal or out-of-school EE activities.

Proceedings involved the presentation of seven working documents, each followed by general discussion, then division of participants into groups for more intensive study and conclusions which were reported back to a plenary session. The first working document suggested strategies suitable for developing an EE curriculum, to which participants responded in general agreement that the infusion approach (incorporation of an environtal dimension or theme into existing disciplines) was best at the primary and secondary school level but that either the infusion or the interdisciplinary approach (team-teaching, for example) could be used effectively. Attention was next focused on the working document dealing with strategies for the EE training of teachers which involved, in turn, discussion of what should be taught and the methodology to be employed. EE teachers themselves, it was agreed, required specialized training.

The majority of the sessions which followed were devoted to critical examination of the five modules presented : (1) pre- and (2) in-service EE training of *primary* school teachers and supervisors, (3) pre-and (4) in-service EE training of secondary school *science* teachers and supervisors, and (5) in-service EE training of secondary school *social science* teachers and supervisors. Participants then proceeded to discuss ways and means for adapting these modules to their local conditions and identification of institutions by whom the adaptations might be undertaken. (A printed, 139-page Final Report of the Caribbean Workshop, complete with tables and graphs, is now available. For more information, write to *Connect*, address on last page, or to School of Education, University of the West Indies, Mona, Jamaica).

Country Reports

Bahamas

The major environmental problems of the Bahamas, whose islands are relatively long, narrow and low lying, are primarily: the management of fresh water resources; the destruction of reefs and fishing grounds due to illegal fishing techniques and poaching by foreigners; and the littering which detracts from the country's tourist resort image.

Environmental education is viewed as fundamental to the nation's conservation efforts, consequently EE permeates all levels of the school system with greatest attention being paid at the primary level. Progressively students are taught elementary ecology and conservation, pollution and its prevention, the Bahamian cultural heritage and methods for its preservation and protection. Students are led to examine their own possible contribution to environmental problems and the behaviour necessary for their solutions. Environmental concerns are further studied in the junior secondary science curriculum, accompanied by field trips.

The College of the Bahamas is responsible for providing tertiary-level environmental education with an emphasis on fostering a sense of national identity. Pre-service teacher education provides students with techniques and skills to assist them in the teaching of environmental themes. Future primary-science teachers, for instance, are familiarized with general techniques for collecting and communicating qualitative data on the environment, particularly their local environment.

The Bahamas National Trust is the principal organization for promoting EE programmes for the general public. The Trust is also involved in environmental protection, including preservation of historical buildings. The public programmes consist mainly of monthly lectures and slide shows, publication of a quaterly journal and monthly newsletter, field guides for children, films, tours of historical buildings, nature trips and clean-up campaigns.

Barbados

The major environmental problems of Barbados include: soil erosion, inadequate and inefficient solid waste disposal methods; marine pollution; and over-concentration of tourist resort facilities in coastal areas. At present there is no separate and discrete EE programme being carried out in Barbados. However, environmental themes are being infused into science, social studies and health curricula at primary and secondary level and into science and social studies at the Teacher's Training College. EE project work has been an integral aspect of the social studies programme of the Teacher's College since 1981 with informal cooperation between members of the social studies and of the science departments in its conduct.

The Barbados Community College, as an adult education institution, has shown interest in and concern for public EE. The Caribbean Conservation Association, a nongovernmental agency, is primarily concerned, as its name indicates, with environmental conservation. It is deeply committed to EE and in April 1983 the Association sponsored jointly with the Ministry of Education and the University of Ohio (USA) a one-week EE training workshop for teachers with activities based on a module specifically designed for Barbados and its environment.

Belize

Newly independent and with a relatively small population (about 143,000), Belize is experiencing several environmental problems, including overfishing of marine resources, pollution of freshwater resources, inadequate waste-disposal systems and some deforestation.

Though there is an awareness of the need for environmental education, there are few formal EE programmes being conducted in Belize. Those in operation aim primarily at fulfilling syllabus requirements for examinations of the General Certificate of Education and Caribbean Examination Council. As for nonformal or out-of-school EE, the Belize Audubon Society, governmental and nongovernmental publications and the mass media are principally instrumental in creating awareness of the environment and encouraging proper attitudes toward it.

Dominica

The environmental problems of the island of Dominica (77,000 population) are principally marine and freshwater pollution, waste disposal and soil erosion. The Ministries of Agriculture, Health and Education work together towards prevention and solution of the problems. The Ministry of Agriculture takes the lead in teaching proper farming methods and the conservation of soil and wildlife (a National Park and Wildlife Act is among the measures which have been taken). The Health Ministry is active in helping citizens towards good practises in waste disposal and prevention of marine and freshwater pollution. The Ministry of Education seeks to incorporate all these ideas, measures and principles into its school and adult literacy programmes.

Grenada

Most environmental problems of Grenada are associated with its two principal industries — agriculture and tourism. They are soil erosion, deterioration of historical buildings and tourist sites, and the like. Since 1982 an effort has been made to meet the situation, leading notably to the launching of the Environmental Conservation Council, which includes among its constitutional aims not only environmental conservation but the encouragement and promotion of environmental education.

In pursuance of these aims, the Council has endeavoured to stimulate sound community actions for the environment and to educate the public through radio, press, television, local forums and lectures, etc. At the formal school level, there are no EE courses as such, but the environmental dimension has been incorporated to some extent into zoology, botany, biology, chemistry and geography syllabi and programmes. A proposal has also been put forward for general reform of the curriculum, involving infusion of environmental concerns into the educational process.

Jamaica

Among Jamaica's major environmental problems are: pollution of seas and rivers; air pollution; reduced stream and river flow and lowering of the water table; soil erosion; population pressures; destruction of swamps and forests; soil pollution; and depletion of marine resources. There are, however, a number of measures being taken to protect endangered species, the watershed areas and the beaches. There are also an island-wide public health programme and the monitoring of water quality.

Though there is recognition of need for environmental education, both inside and outside the school system, most EE in Jamaica is the latter, i.e., nonformal. Programmes in this connection are conducted by the Natural Resources Conservation Department of the Ministry of Mining and Energy and the Environmental Control Division of the Ministry of Health through exhibitions, publications, lectures, the mass media, etc. There are formal EE programmes as well, carried out by the West Indies School of Public Health, the University of West Indies and in a lesser way by the College of Arts, Science and Technology. Secondary-level and university science and social studies syllabi have included some environmental themes since 1980.

St. Lucia

St. Lucia is a small island of 140,000 population, whose environmental problems involve depletion and contamination of natural resources and health problems centred upon inadequate waste disposal and mosquito control. In general these problems are attributed to a lack of sufficient environmental education of the public. The country's response has been to organize a conservation programme conducted by the Forestry Division: to sensitize decision makers as well as the general public; and to form associations and community groups for environmental action. An EE workshop has been held and an EE project has also been undertaken jointly by the Caribbean Research Centre and the Eastern Caribbean Natural Area Management Programme.

St. Vincent and the Grenadines

The environmental problems of St. Vincent and the Grenadines, a small developing country of about 110,000 population, include deforestation, deterioration of coastal beaches and inadequate waste disposal. Environmental education is unstructured, but environmental themes are infused into science, social studies and health education at the primary-school level, and into biology, geography, social studies and general science at the secondary school level. Some nonformal EE is carried out by both governmental and nongovernmental bodies, including the St. Vincent National Trust, youth organizations and service clubs.

Trinidad-and-Tobago

EE efforts in Trinidad-and-Tobago have been in response to the recognition of environmental neglect and deterioration of the nation's natural resources. The first major effort was that of the Ministry of Health and Environment. Other governmental and nongovernmental bodies and agencies are also conducting varying kinds of EE programmes. The result has been a fragmentary approach and the need felt is that of coordinating EE activities so as to eliminate overlap and ensure greater coverage of the population, inside as well as outside the school system.

(For a complete list of previous country reports from all regions of the world, see Connect, *December 1983.)*

Environmental Education in Malaysia

The school system of Malaysia consists of primary level education (six years), lower secondary (three years) upper secondary (two years), post-secondary (generally two years) and university or other institution providing professional courses. Environmental education has been taught principally through science study, which is a compulsory course to the pre-university level, where it is optional. With the introduction of the new primary curriculum in 1983, science is being incorporated as part of the subject *Man and His Environment*.

One of the main aims of this instruction at the primary level is to assist pupils in learning how to live in their environment and to enable them to use intelligently scientific knowledge in dealing with environmental problems. Special efforts are being made to introduce aspects of the environment into existing disciplines, such as languages and mathematics. At the lower secondary level scientific knowledge and skills are further emphasized and at the upper secondary level, pupils are encouraged to adopt a scientific approach and desirable attitude towards the environment and its problems. Pre- and in-service training of teachers takes these educational objectives into consideration.

At the tertiary level, the Universiti Pertanian Malaysia offers a Bachelor of Science (Environment) degree at the end of a four-year undergraduate programme, which is designed to produce environmental managers and planners. The programme includes foundation (fundamental biology, physics, chemistry, etc.) and supporting studies (applied statistics, micro and macro-economics, introduction to computer, etc.), core (environmental health, planning, management, pollution control, etc.) and special elective courses (meteorology, biochemistry, microbiology, etc.). Not less than six weeks of field work are a compulsory part of the programme.

The Division of the Environment, under the Ministry of Science and Technology, which was established in 1975, recognizes the vital role of EE in developing new knowledge, new perceptions and

new attitudes vis-a-vis the environment, not only at all levels of the government but also of the private sector including the individual citizen. Consequently, the Environment Division has produced supplementary reading materials on the environment for school children and various other materials for the general public, organized out-of-school activities, involving an annual World Environment Day (June 5), seminars, tree-planting campaigns, TV documentaries, lectures and talks, etc. Training for the staff of the Environment Division has been provided mainly through national and international EE workshops. In addition lectures are conducted by senior members of the staff as well as by guest lecturers from local universities and specialized agencies.

The regional Asia-Pacific Institute for Broadcasting Development recently ventured into the field of EE by completing a Malaysian project on energy education through radio broadcasting. The primary objective of the project was to establish a process bringing together, on an ongoing basis, broadcasters, scientists and community workers in the design, production and implementation of innovative energy education programmes at the community level. The Malaysian project is seen as the first of a larger subregional programme of a similar cooperative nature among communicators, technologists and community leaders for creating self-help projects involving such community concerns as pure water supply, sanitation and waste disposal, etc.

Southeast Asia Seminar on EE for Planners and Decision-Makers

A subregional seminar on the Transfer of Environmental Education to Planners and Decision-Makers in Southeast Asia was held at the University of the Philippines, Diliman, Quezon City, 6-9 December 1983. The seminar was jointly sponsored by the School of Urban and Regional Planning, the University of the Philippines and Unesco. The aims of the seminar were: (1) to exchange ideas and experiences between educators and practitioners on how to relate various strategies and programmes on environmental education, research and training to the particular problems and needs of developing countries in Southeast Asia; and (2) to discuss the feasibility of establishing a network of institutions of higher learning on environmental education, research and training.

The seminar was attended by nineteen participants, who came from Australia, China, Indonesia, Japan, Malaysia, Philippines, Thailand and Vietnam. There were four observers as well. In summary, the participants agreed upon the following: (1) establishment of an ASEAN (Association of Southeast Asian Nations) Council for Higher Education in Environment (ACHEE), whose goal will be to provide support for strenghtening activities of institutions of higher learning pertaining to teaching, research and extension work in the environment; (2) designation of the School of Urban and Regional Planning, University of the Philippines, as the Interim Secretariat of ACHEE; and (3) authorization of ACHEE initiatives to gain affiliate status with ASEAN through assistance of the ASEAN Experts Group on the Environment.

Objectives of the ASEAN Council for Higher Education in Environment are to be: the exchange of information on EE curriculum research and training programmes; establishment and conduct of teacher and student development programmes by means of short EE courses, degree programmes and teacher exchanges; fostering of fellowship programmes; establishment of cooperative EE research, including international comparative studies, by means, among others, of joint research projects and standardization of methodologies; strengthening of cooperative EE activities among governmental and nongovernmental organizations; establishment and maintenance of inventories of EE resources of member institutions; and collection and dissemination of information by publishing an EE newsletter or bulletin.

(Publication of the seminar's proceedings, including participants' papers and discussions, is under consideration. For more information, write: ACHEE, School of Urban and Regional Planning, University of the Philippines, Diliman, Quezon City, Philippines.)

EE Training Workshop in Tunisia

A national training workshop in environmental education for key personnel, both inside and outside the formal school system, was held in Hammamet, Tunisia, 27-29 December 1983, as an activity of the Unesco-UNEP International EE Programme. There were 29 participants, who included university professors of the natural and physical sciences, administrators and a researcher of the Ministry of Agriculture, directors and inspectors of primary and secondary schools and secondary agricultural schools, directors of teacher-training and other institutions, et al. There were also representatives of Alecso and of the organizing body, Tunis's National Commission for Unesco.

Discussion followed a preliminary presentation of current knowledge concerning environmental problems, their prevention and solution, particularly in Tunisia. An afternoon was then spent on an exposé and discussion of EE at the primary level, succeeded the following morning by a similar treatment of EE at the secondary level. In the afternoon environmental actions of the Ministry of Agriculture were presented and discussed, specially those concerning desertification, soil erosion and the use of insecticides. Two examples of gaming in education about energy were also presented and discussed. The following morning was devoted to environmental research, the afternoon to conclusions and recommendations.

There was a consensus among participants that an environmental dimension should be incorporated to the greatest extent possible into the training of teachers particularly and in the case of students as soon as and wherever practicable. Teachers, it was felt, should have a guide to EE for each educational level — pre-school, primary, secondary and higher. Other texts and audiovisual materials were also emphasized. Recommendations regarding out-of-school environmental education were specially addressed to Tunisia's National Environmental Commission, over which the Prime Minister presides. Among other recommendations were : raising the environmental awareness of the general population, publication of an environmental magazine, encouragement of the production of EE materials, organization of national environmental campaigns and requirement of environmental impact studies, specially on industrial wastes. Follow-up seminars and workshops are planned.

EE Training Workshop in Ethiopia

Jointly organized by the Ministry of Education and the Unesco-UNEP International EE Programme, a national training workshop in environmental education was conducted in Addis Ababa, Ethopia, 23-26 August 1983. The workshop was directed to teacher trainers, curriculum developers, extension service agents and experts and representatives of mass organizations. Over fifty persons participated.

The objectives of the workshop were to raise the level of awareness of participants concerning Ethiopia's environmental problems (sanitation, nutrition, water supply, desertification, etc.), to enable them to acquire the attitudes and skills needed for positive environmental actions and to help participants prepare EE teaching materials for use in both school and out-of-school educational programmes.

The first part of the workshop was devoted to plenary discussions of various presentations dealing with the environment of Ethiopia and the ways and means of promoting EE in the country. The presentations also formed the basis for the exchange of ideas and experience among participants.

The second part of the EE training workshop consisted of collective work. Participants were divided into seven working groups which produced nine packages of EE materials, as indicated: 1. EE at the primary level; 2. EE at the secondary level; 3. EE in primary-school teacher training; 4. EE in secondary-school teacher training; 5. EE in nonformal or out-of-school educational programmes; 6. Integrating EE into the vocational education programme of the school system; 7. The role of mass organizations in fostering EE in Ethiopia; 8. EE in the conservation of soil, water and wildlife; and 9. EE in pesticides and their rational use.

Among the final recommendations of the Ethiopian EE training workshop was the call for a national environmental coordinating committee or body which would draw up national environmental policies, plans and programmes, including EE in both formal and nonformal educational programmes.

EE and Health-Related Environmental Problems

The Working Group on Priorities for Health-Related Environmental Problems of the Western Pacific Regional Centre for the Promotion of Environmental Planning and Applied Studies (PEPAS) met at the latter's headquarters in the Universiti Pertanian Malaysia, Serdang, Malaysia, 25-28 October 1983. Among the objectives of the meeting were: (1) identification of the priority health-related environmental problems of the Asian and Pacific region; and (2) exchange of information about different approaches and strategies, including education, to be used in preventing or solving these problems.

There were fourteen participants from thirteen countries of the region. The working paper for group discussion dealt, *inter alia*, with implementation of environmental health programmes through environmental health education and public information. It was noted that aid should be given internationally for education of environmental health personnel, for the training of teachers for locally created environmental health-training schools or centres; and that research and the exchange of information be encouraged by countries by their providing courses for others, based on their own experiences in solving environmentally linked health problems. The Unesco observer present drew the attention of participants to the importance of EE in developing desirable habits and attitudes of children and adults regarding health and nutrition and environmental sanitation practices. In this connection, an exemplary pilot project in India and a health and nutrition education programme in Thailand were described in some detail.

Conclusions and recommendations included recognition of the need for continuing training of multidisciplinary personnel in terms of evolving development technologies, and the encouragement of public education and community participation in the prevention or solution of environmental health problems.

EE News and Publications

A meeting on Promotion of the Exchange of Information and Expertise on Desertification Matters in Africa was held in Nairobi, Kenya, 6-8 September 1983, and was attended by representatives from UNEP, UNSO and the Permament Inter-State Committee on Drought Control in the Sahel. The aim of the meeting was to discuss consultants' reports on the Kalahari, North Africa, and the Sudano-Sahelian zone, which contained a draft annotated directory of institutions involved in desertification control activities and technology. The reports are shortly to be combined into a consolidated directory and a comprehensive survey of experience, under the supervision of **UNEP**. The two volumes are to be in English and French. For more information, write: Information Service, UNEP, P.O. Box 30552, Nairobi, Kenya. ◆ The Second European Environmental Film Festival was held in Rotterdam, Holland, 26 September — 2 October 1983. Three medals, two silver and one bronze, were awarded as UNEP prizes to: "A Week of Sweet Water" (about the Sahel); "Once in a Lifetime: Men of the Wet Sahara" (on shrimp fishermen); and "Levande Vatten" (Swedish; on water ecosystems).

Chemistry Teaching and the Environment has just been published, in English only, by **Unesco**'s Division of Science, Technical and Vocational Education. ◆ A final report is now available in English on the International Training Course in Environmental Education, held in Prague, Czechoslovakia, September 1982, within the framework of the Unesco-UNEP International EE Programme. For further information on both brochures, write: *Connect*, address on last page.

An 111-page report on an expert meeting concerning Space Applications for the Acquisition and Dissemination of Disaster-Related Data, held in Geneva, Switzerland, 14-17 June 1983 has just been published in English. In addition to the background working document for the meeting, the report contains individual presentations on such matters as disaster prevention, disaster warnings and alerts, disaster relief communications and applications of satellites and remote-sensing from space to disaster management. For more information, write: United Nations Disaster Relief Co-ordinator **(UNDRO)**, Palais des Nations, Geneva, Switzerland 1211.

The Council for Environmental Education **(UK)** has just published a special issue of its Review of EE Developments (REED) whose theme is "EE and the Council — Progress and Prospects". Write: Council for EE, School of Education, London Road, Reading RG1 5AQ, UK. ◆ The **Ukrainian SSB** celebrated the 10th anniversary of its National MAB (Man and the Biosphere) Committee in December 1983. ◆ The National Association for Environmental Education **(USA)** announces a conference to be held at Banff, Alberta, Canada, on the theme: "International Perpectives on EE — Issues and Actions". For more information, write: Chairman, School of Natural Resources, University of Michigan, Ann Arbor, Michigan, USA 48109.

An 138-page report *Environmental Effects of Energy Systems* has been published by **OECD**. The report discusses ways in which environmental and energy policy considerations can be better integrated for greater efficiency and less environmental impacts. Write: OECD, 2, rue André-Pascal 75775 Paris Cedex 16, France. ◆ The 1984 *Illustrated Catalogue of Audiovisual Presentations on Conservation and the Environment* has been issued by the **WWF/IUCN** International Project, Greenfield House, Guiting Power, Cheltenham, Glos. GL54 5TZ, UK. ◆ Since 1980, *Biology International* has been published as the news magazine of the International Union of Biological Sciences **(IUBS)**, 51, boulevard de Montmorency, 75016 Paris, France. It frequently contains articles of EE interest.

Beginning with its April 1983 issue, *De Toute Urgence*, a periodical in French devoted to the rational use of the environment, regularly includes a section on EE. Address: C.P. 39, Sillery (QC), G1T 2P7 Canada. The Winter 1983 issue of **The Environmentalist** contains an interview with the Director General of Unesco which deals with the UN organization's EE and other environmental activities and concerns. In 1983 the environmental quarterly also published as its fifth supplement: "Ecological Structures and Problems of Amazonia". Write: Elsevier Sequoia S.A., P.O. Box 851, 1001 Lausanne 1, Switzerland. ◆ With the Summer 1983 issue, *Environmental Education*, the journal of the National Association for EE (27 Queens Road, Hertford, SG13 8AZ, UK), presents a larger format and greater emphasis on illustration. The Association also announces an EE project for secondary-school students in conjonction with WWF-UK involving open debate about the future of the country's environment. The project comes complete with lively discussion posters. ◆ There is a special well-illustrated report on the environmental face of **Africa** in the magazine *People*, 18-20 Lower Regent Street, London SW1Y 4PW, England. ◆ Under co-sponsorship of the Education Ministry and the State Secretariat of the Environment of **France**, a twice-yearly magazine titled, *Pour une éducation à l'environnement*, has been announced for publication, commencing May 1984. The revue will be addressed to teachers and instructors at all levels of education. Write: Director, Centre européen d'éducation à l'environnement, 05600 Montdauphin, France.

RECYCLE PAPER

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Published by Unesco

7, place de Fontenoy, 75700 Paris, France

S.A.G.I. - Paris. Printed in France

217/45582